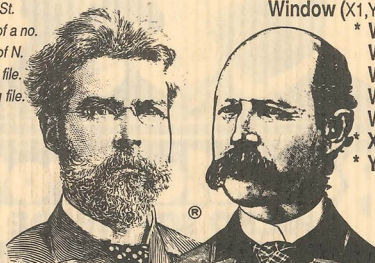


TURBO PASCAL™ PROCEDURES AND FUNCTIONS

Abs (Num) : real or integer;	Returns the absolute value of a number.
Addr (Var) : pointer;	Returns the address of a variable.
Append (FilVar);	Position file pointer at end of file.
* Arc (Nx,Ny,Rdeg,Rrad,Ncolor);	Draw part of a circle.
ArcTan (Num) : real;	Returns arctangent (in radians) of a number.
Assign (FilVar,St);	Assign a file name to a file variable.
* Back (N);	Move turtle backwards N units.
Chain (FilVar);	Activate a Turbo .CHN file.
ChDir (St);	Change current directory.
Chr (N) : char;	Returns character with ASCII value N.
* Circle (Nx,Ny,Rrad,Ncolor);	Draw a circle with radius Rad.
* ClearScreen ;	Clear graphics screen; move turtle to center.
Close (FilVar);	Indicate that you're finished with a file.
ClrEol ;	Clear to end of line.
ClrScr ;	Clear the screen; move cursor to (1,1).
ColorTable (N1,N2,N3,N4);	Define color translations.
Concat (St1,St2,...) : string;	Returns concatenation of strings.
Copy (St,Npos,N) : string;	Returns substring, N chars starting at Npos.
Cos (Num) : real;	Returns Cosine of a number given in radians.
CrtExit ;	Does nothing on IBM.
CrtInit ;	Does nothing on IBM.
Cseg : integer;	Returns segment address for program code.
Delay (N);	Wait for N one-thousandths of a second.
Delete (St,Npos,N);	Remove chars St[Npos] to St[Npos+N-1].
DelLine ;	Delete the line where the cursor is.
Dispose (Ptr);	Release Heap space, after "New".
Draw (X1,Y1,X2,Y2,N);	Draw a line using color N.
Dseg : integer;	Returns segment address of data area.
Eof (FilVar) : boolean;	Returns "True" if end-of-file reached.
Eoln (FilVar) : boolean;	Returns "True" if end-of-line reached in a text file.
Erase (FilVar);	Remove a file from disk.
Execute (FilVar);	Run another Turbo Pascal .COM program.
Exit ;	Leave the current procedure or function.
Exp (Num) : real;	Returns the value "e" to the power Num.
FilePos (FilVar) : integer;	Returns the current record number in a file.
FileSize (FilVar) : integer;	Returns the number of records in a file.
FillChar (Var,N,Ch);	Fill N bytes of memory beginning at Var with Ch.
* FillPattern (X1,Y1,X2,Y2,Ncolor);	Fill a rectangle, after Pattern call.
* FillScreen (N);	Paint graphics screen with color N.
* FillShape (Nx,Ny,Nfill,Nbord);	Fill a shape with color Nfill.
Flush (FilVar);	Empty file buffer to disk.
* Forwd (N);	Move turtle ahead N units.
Frac (R) : real;	Returns the part of R to the right of decimal point.
FreeMem (Ptr,N);	Release N bytes of memory to Heap, after GetMem.
GetDir (N,St);	Set St to current directory for drive N.
* GetDotColor (Nx,Ny) : integer;	Returns current color of one point on screen.
GetMem (Ptr,N);	Allocate N bytes of memory from Heap.
* GetPic (Buffer,X1,Y1,X2,Y2);	Store part of screen in memory.
GoToxy (Nx,Ny);	Move cursor to column Nx, row Ny on text screen.
GraphBackground (N);	Set graphics background color in 320 x 200 mode.
GraphColorMode ;	Use 320 x 200 four color graphics.
GraphMode ;	Use 320 X 200 black and white graphics.
GraphWindow (X1,Y1,X2,Y2);	Set a graphics window.
Halt ;	Stop the program.
* Heading : integer;	Returns angle of turtle's direction.
Hi (N) : integer;	Returns the high order byte of N.
* HideTurtle ;	Stop showing turtle icon on screen.
HighVideo ;	Start writing intense text.
HiRes ;	Use 640 x 200 graphics, one color plus black.
HiResColor (N);	Choose color for 640 x 200 graphics.
* Home ;	Move turtle to center of screen.
Inline (N1/N2/...);	Insert machine code directly into program.
Insert (St,Sttarget,N);	Insert string St into Sttarget at position N.
InsLine ;	Put a blank line on screen at cursor.
Int (R) : real;	Returns the integer part of a real number.
Intr (N,Registers);	Perform system interrupt number N.
IOresult : integer;	Returns zero if latest I/O was successful.
KeyPressed : boolean;	Returns "True" if key pressed.
Length (St) : integer;	Returns number of chars in St.
Ln (Num) : real;	Returns logarithm (base e) of a no.
Lo (N) : integer;	Returns the low order byte of N.
LongFilePos (FilVar) : real;	Returns record no. for a big file.
LongFileSize (FilVar) : real;	Returns no. of records in big file.
LongSeek (FilVar,R);	Move file pointer in a big file.
LowVideo ;	Start writing dim text.
Mark (Ptr);	Set pointer to top of heap, use with Release.
MaxAvail : integer;	Returns paragraphs in largest chunk on heap.
MemAvail : integer;	Returns total number of free paragraphs in heap.
MkDir (St);	Make a new subdirectory named St.
Move (Var1,Var2,N);	Move N bytes from Var1 to Var2.
MSdos (Registers);	Perform a DOS function call, interrupt 21.
NormVideo ;	Set screen to high intensity.
NoSound ;	Turn off speaker, after Sound call.
* NoWrap ;	Prevent turtle from wrapping around screen edges.
Odd (N) : boolean;	Returns "True" if N is odd.
Ofs (Var) : integer;	Returns offset address of variable.
Ord (Scv) : integer;	Returns ordinal value of a scalar variable.
OvrPath (St);	Select a subdirectory path for overlays.
Palette (N);	Choose graphics colors to use.
ParamCount : integer;	Returns number of parameters supplied to program.
ParamStr (N) : string;	Returns parameter number N.
* Pattern (PatternVar);	Define a pattern to use in FillPattern.
* PenDown ;	Cause turtle to leave a trail.
* PenUp ;	Stop turtle from leaving a trail.
Plot (Nx,Ny,N);	Set point (Nx,Ny) to color N.
Pos (St,Sttarget) : integer;	Returns position of St in Sttarget, or zero.
Pred (Scv) : scalar;	Returns the next lower scalar.
Ptr (Nseg,Nofs) : pointer;	Returns a pointer to the address Nseg:Nofs.
* PutPic (Buffer,X1,Y1,X2,Y2);	Restore part of screen from memory.
Random (N) : integer;	Returns a number between 0 and N-1.
Random : real;	Returns a number between 0 and 0.999999999999.
Randomize ;	Reinitialize the random number generator.
Read (Var...);	Read one or more items from user.
Read (FilVar,Var...);	Read one or more items from a file.
ReadLn (Var...);	Read zero or more items, ending with CR/LF.
ReadLn (FilVar,Var...);	Read items from text file, ending with CR/LF.
Release (Ptr);	Free all heap space above Ptr, use with Mark.
Rename (FilVar,St);	Change the name of a file on disk.
Reset (FilVar);	Prepare to read a file from the start.
Rewrite (FilVar);	Prepare to write a file; destroy old one if any.
Rmdir (St);	Remove empty subdirectory named St.
Round (R) : integer;	Returns integer closest to value of R.
Seek (FilVar,N);	Move file pointer to Nth record.
SeekEof (FilVar) : boolean;	Returns "True" if at end of text file.
SeekEoln (FilVar) : boolean;	Returns "True" if at end of line in text file.
Seg (Var) : integer;	Returns segment address of variable.
* SetHeading (Ndeg);	Change direction of turtle; "north" = zero degrees.
* SetColor (N);	Choose color for turtle trail.
* SetPosition (Nx,Ny);	Move turtle to (Nx,Ny).
* ShowTurtle ;	Display turtle icon on screen.
Sin (Num) : real;	Returns sine of number given in radians.
SizeOf (Var) : integer;	Returns number of bytes used by variable.
Sound (N);	Make speaker noise of frequency N, until NoSound.
Sqr (Num) : real or integer;	Returns the number squared.
Sqrt (Num) : real;	Returns the square root of a number.
Sseg ;	Returns the segment address of the Stack.
Str (Num,St);	Convert the number into a string.
Succ (Scv) : scalar;	Returns the next higher scalar.
Swap (N);	Switch the high and low bytes of an integer.
TextBackground (N);	Set background color on the text screen.
TextColor (N);	Set foreground color on the text screen.
TextMode (mode);	Set screen as "BW40", "C40", "BW80", or "C80".
* TurnLeft (Ndeg);	Change turtle direction.
* TurnRight (Ndeg);	Change turtle direction.
* TurtleDelay (N);	Slow down turtle movement.
* TurtleThere : boolean;	Returns "True" if turtle icon is showing.
* TurtleWindow (Nx,Ny,Nw,Nh);	Set a graphics window.
Trunc (R) : integer;	Returns the integer part of a real number.
Truncate (FilVar);	Discard whatever is past the file pointer.
UpCase (Ch) : char;	Returns the upper case equivalent of a character.
Val (St,Num,N);	Convert string to number; N set to zero if success.
WhereX : integer;	Returns column of cursor location on text screen.
WhereY : integer;	Returns row of cursor location on text screen.
Window (X1,Y1,X2,Y2);	Set a text window.
* Wrap ;	Allow turtle to wrap around screen edges.
Write (Var...);	Write one or more items to screen.
Write (FilVar,Var...);	Write one or more items to a file.
WriteLn (Var...);	Write zero or more items plus CR/LF.
WriteLn (FilVar,Var...);	Write items plus CR/LF to text file.
* Xcor : integer;	Returns vertical position of turtle.
* Ycor : integer;	Returns horizontal position of turtle.

VARIABLE KEY

N	Integer	Var	Any variable
R	Real number	Scv	Scalar variable
Num	Integer or real number	Ptr	Pointer variable
St	String	FilVar	File variable
Ch	Character	X1,Y1	Integer or screen location



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* EXTENDED GRAPHICS COMMANDS

To use these commands, your program must include the line **{ \$I GRAPH.P }** and the files **GRAPH.P** and **GRAPH.BIN** must be in the default directory.